

CLAIMS

1. (previously presented) A conformable surfacing veil comprising:
a plurality of structural fibers;
a plurality of bicomponent fibers coupled to said plurality of structural fibers, each of said plurality of bicomponent fibers having a core substantially surrounded by an outer polymer annulus, wherein the melting point of said outer polymer annulus is significantly lower than said core and said plurality of structural fibers and wherein a portion of said plurality of structural fibers comprises one or more irregularly shaped fibers, said one or more irregularly shaped fibers having a melting point significantly higher than said outer polymer annulus.

2. (canceled)

3. (previously presented) The conformable surfacing veil of claim 1, wherein said plurality of irregularly shaped fibers have a linear density of between about 1.5 and 15 denier.

4. (previously presented) The conformable surfacing veil of claim 1, wherein said one or more irregularly shaped fibers comprises one or more crimped fibers.

5. (previously presented) The conformable surfacing veil of claim 1, wherein said one or more irregularly shaped fibers comprises one or more crimped polyester fibers.

6. (previously presented) The conformable surfacing veil of claim 1, wherein said one or more irregularly shaped fibers comprises one or more crimped nylon fibers.

7. (previously presented) The conformable surfacing veil of claim 1, wherein said one or more irregularly shaped fibers comprises one or more randomly coiled or spiral fibers.

8. (original) The conformable surfacing veil of claim 1 further comprising a plurality of microspheres, said plurality of microspheres comprising between about 5 and 20 weight percent of the conformable surfacing veil.

9. (original) The conformable surfacing veil of claim 1, wherein said plurality of structural fibers comprises a plurality of glass fibers, said glass fibers selected from the group consisting of E-type glass filaments, S-type glass filaments, alkaline resistant glass filaments, C-glass filaments, ECR-type glass filaments, wet use chop strands, and combinations thereof.

10. (original) The conformable surfacing veil of claim 9, wherein said plurality of glass fibers have a diameter between approximately 6 and 25 microns and a length of between about 0.125 inches and 3 inches.

11. (original) The conformable surfacing veil of claim 1, wherein said plurality of structural fibers comprises a plurality of polyester fibers.

12. (original) The conformable surfacing veil of claim 11, wherein said plurality of polyester fibers have a linear density of between approximately 0.5 and 15 denier and a length of between about 0.125 inches and 3 inches.

13. (original) The conformable surfacing veil of claim 11, wherein said plurality of polyester fibers is selected from the group consisting of straight filaments of polyethylene terephthalate fibers, round filaments of polyethylene terephthalate fibers, and cut staple filaments of polyethylene terephthalate fibers.

14. (original) The conformable surfacing veil of claim 1, wherein said plurality of structural fibers comprise between approximately 25 and 95 percent of the total weight of the conformable surfacing veil.

15. (original) The conformable surfacing veil of claim 1, wherein said core comprises polyethylene terephthalate.

16. (original) The conformable surfacing veil of claim 1, wherein said core comprises approximately 60 weight percent of said bicomponent fiber.

17. (original) The conformable surfacing veil of claim 1, wherein said outer polymer annulus comprises a low melt copolymer polyester.

18. (original) The conformable surfacing veil of claim 1, wherein said outer polymer annulus comprises a low melt copolymer polyethylene.

19. (original) The conformable surfacing veil of claim 1, wherein said outer polymer annulus comprises a low melt copolymer polypropylene.

20. (original) The conformable surfacing veil of claim 1, wherein the melting point of said outer polymer annulus is at least 100 degrees Fahrenheit lower than the melting point of said core and said plurality of structural fibers.

21. (original) The conformable surfacing veil of claim 1, wherein said plurality of structural fibers comprises a plurality of glass fibers, said glass fibers selected from the group consisting of E-type glass filaments, S-type glass filaments, alkaline resistant glass filaments, C-glass filaments, ECR-type glass filaments, wet use chop strands, and combinations thereof; and

wherein said outer polymer annulus comprises a low melt copolymer polyester.

22. (original) The conformable surfacing veil of claim 1, wherein said plurality of structural fibers comprises a plurality of glass fibers, said glass fibers selected from the group consisting of E-type glass filaments, S-type glass filaments, alkaline resistant glass filaments, C-glass filaments, ECR-type glass filaments, wet use chop strands, and combinations thereof; and

wherein said outer polymer annulus comprises a low melt copolymer polyethylene.

23. (original) The conformable surfacing veil of claim 1, wherein said plurality of structural fibers comprises a plurality of glass fibers, said glass fibers selected from the group consisting of E-type glass filaments, S-type glass filaments, alkaline resistant glass filaments, C-glass filaments, ECR-type glass filaments, wet use chop strands, and combinations thereof; and

wherein said outer polymer annulus comprises a low melt copolymer polypropylene.

24. (original) A reinforced plastic article having a conformable surfacing veil as in claim 1.

25. (original) The reinforced plastic article of claim 24, wherein the reinforced plastic article has a compound curvature within a portion containing said conformable surfacing veil.

Claims 26.-36. (cancelled)

37. (previously presented) The conformable surfacing veil of claim 1, wherein said structural fibers are hollow.

38. (previously presented) The veil of claim 1, wherein said plurality of structural fibers comprises a plurality of glass fibers.

39. (previously presented) A conformable surfacing veil comprising:
a plurality of structural fibers; and

a plurality of bicomponent fibers coupled to said plurality of structural fibers, each of said plurality of bicomponent fibers having a core substantially surrounded by an outer polymer annulus, wherein the melting point of said outer polymer annulus is significantly lower than said core and wherein a portion of said plurality of structural fibers comprises one or more irregularly shaped fibers, said one or more irregularly shaped fibers having a melting point at least 100 degrees Fahrenheit higher than a melting point said outer polymer annulus.

40. (previously presented) The veil of claim 39, wherein said one or more irregularly shaped fibers is selected from the group consisting of crimped fibers, randomly coiled fibers, and spiral fibers.

41. (previously presented) The veil of claim 39, wherein said plurality of structural fibers comprises a plurality of glass fibers.

42. (previously presented) The veil of claim 39 wherein said outer polymer annulus is formed of a material selected from the group consisting of a low melt copolymer polyester, a low melt copolymer polyethylene, and a low melt copolymer polypropylene.

43. (previously presented) The veil of claim 39 wherein said structural fibers are hollow.

44. (previously presented) A conformable surfacing veil comprising:

a plurality of structural fibers;

a plurality of bicomponent fibers coupled to said plurality of structural fibers, each of said plurality of bicomponent fibers having a core substantially surrounded by an outer polymer annulus, wherein the melting point of said outer polymer annulus is significantly lower than a melting point of said core or a melting point of said plurality of structural fibers; and

a plurality of microspheres.

45. (previously presented) The veil of claim 44, wherein a portion of said plurality of structural fibers comprises one or more irregularly shaped fibers, said one or more irregularly shaped fibers having a melting point significantly higher than said outer polymer annulus.

46. (previously presented) The veil of claim 45, wherein the melting point of said outer polymer annulus is at least 100 degrees Fahrenheit lower than the melting point of said core or said plurality of structural fibers.

47. (previously presented) A conformable surfacing veil comprising:

a plurality of structural fibers; and

a plurality of bicomponent fibers coupled to said plurality of structural fibers, each of said plurality of bicomponent fibers having a core substantially surrounded by an outer polymer annulus, wherein the melting point of said outer polymer annulus is at least 100 degrees Fahrenheit lower than a melting point of said core and a melting point of said plurality of structural fibers.

48. (previously presented) The conformable surfacing veil of claim 47, wherein the plurality of structural fibers include irregularly shaped fibers.

49. (previously presented) The conformable surfacing veil of claim 8, wherein the microspheres comprise polymeric expandable microspheres.

50. (previously presented) The conformable surfacing veil of claim 44, wherein the microspheres comprise polymeric expandable microspheres.